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Forest Conservation, Value Conflict, and Interest Formation. in a Honduran National Park*

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ABSTRACT We argue that attempts to superimpose park regulatory regimes on existing land uses in the tropics represent conflicts between alternative cultural models of natural resource management. The results of such conflicts are unique regulatory regimes emerging from distinctive processes that redefine the terms and limits of natural resource use. In creating a scarcity of available resources, parks encourage social differentiation and greater awareness of societal patterns of inequality, establishing a potential for the articulation of demands for social and environmental equity. We evaluate these claims with a case study of the Cerro Azul Meambar National Park in Honduras. We base our analysis on 54 in-depth interviews of Park residents in five Park communities.

Our study of a national park in Honduras addresses ongoing debates about the local definition and meaning of natural resources. We argue that common environmental concerns have unique local expressions which emerge from 'interactions between local and organizational forces. These interactions center on definitions of the terms of acceptable resource use. We also claim that the process of setting limits on resource use may have differential outcomes for community members. The creation of a park, we believe, creates inequalities and compresses rural and urban space to establish a potential for the articulation of broadly based demands for social and environmental equity.

We claim that park management brings global environmental interests into direct contact with local interests. We review ways in which these interests conflict, and maintain that these interests emerge from distinctive cultural models. We then discuss three processes by which park residents define their interests in relation

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to a park regulatory regime. At the heart of this paper we demonstrate how these processes operate in the Cerro Azul Meambar National Park in Honduras. In conclusion, we discuss; how the results of our analysis have implications for understanding park management and its consequences.

Park Management As a Globalizing Phenomenon

The creation of parks and other protected areas is a global phenomenon that has gained momentum over the past few decades. Throughout the world, 25,000 sites protect more than 5 percent of the earth's surface. Parks make up 1,470 of these siteb; game reserves, watershed protection forests, indigenous reserves, and recreational forests account for the rest (Brandon, Redford, and Sanderson 1998; McNeely, Harrison, and Dingwall 1994). This phenomenon is relatively recent: more parks have been created since 1970 than ever before (Brandon et al. 1998). The parks protect a wide range of environments, but their inspiration and the strategies used in their management are part of a global process (Brandon et al. 1998; Western and Wright 1994).

This process is global in two important ways. First, park management strategies, although typically deployed under the authority of national governments, are internationally inspire?. They emerge from an international environmental discourse that emphasizes the universal quality of certain environmental problems and our purportedly common interest in resolving them (Hannigan 1995; Rocheleau and Ross 1995; Yearly 1996). Second, although nation-states are involved in this discourse, it transcends their boundaries and they do not dominate it. Environmental nongovernmental organizations (NGOs) are an active and increasinglyjimportant force in discussions of global environmental problems. Their importance was quite evident at the United Nations Conference on Environment and Development, more commonly known as the Earth Summit, held in Rio de Janeiro in 1992 (Potter and Taylor 1996; Thomas 1994). International environmental organizations/ such as Greenpeace, the World Wildlife Fund, and The Nature /Conservancy increasingly claim to represent global environmental interests.

The proliferation and management of protectediareas in tropical areas are linked closely to the process of environmental globalization. Tropical parks relate to several global environmental concerns. First, parks preserve trees, which are important carbon sinks that help to mitigate global warming. Second, parks provide a protected habitat for a variety of plants and animals,, thereby helping to preserve the world's biodiversity. More than 150 nations participating in the 1992 Earth Summit acknowledged the ixnportance of biodiversity protection by signing the Biodiversity Convention. In global environmental protection efforts, tropical areas are regarded

as centrally important; they are assigned important responsibilities in protecting the common good. "In effect," as Yearly (1996:59) points out, "tropical countries are being asked to conserve their natural resources for the good of the international community,"

It is not clear, however, whether purportedly global environmental interests such as the preservation of tropical forests and biodiversity are inherently universal. These interests are created through the interaction of various sometimes competing international organizations such as environmental NGOs, the United Nations, and the World Bank. Given the constructed nature of these claims to represent the global good, we might expect persons representing particular local needs to challenge representations of universal environmental interests (Lipschutz and Conca 1993; Yearly 1996).

We focus on specific circumstances in which local and outside organizational forces confront one another and create distinctive forms of environmental concern in poor countries. Such encounters are caused by contemporary efforts to create national parks for protection of the natural environment. These ventures are under way in many parts of the world; often they must deal with local populations that already occupy the space newly declared a protected area.

Cultural Models and Conflicts of Values and Interests

Global environmentalism, we argue, represents a cultural model that has grown out of First World environmental concerns, especially those of the United States, and has been promoted by international environmental NGOs. Environmental concerns emanating from American culture, for example, are based on a distinctive set of shared values, norms, attitudes, and knowledge about the environment. With respect to protected areas, this cultural model places a premium on wilderness preservation; its advocates attempt to legitimate it with discourses, or systems of ideas, that emphasize the primacy of protecting the global commons relative to other concerns (Guyer and Richards 1996). This model, which emerged in nineteenth-century Europe and North America, asserts the inherent value of natural resources, as opposed to focusing narrowly on their utility in accumulating wealth (Nash 1982). Such an orientation represents an ecological value sphere possessing its own values, norms, and obligations and defining a realm of activities concerned with environmental protection for the common good.[1]

[1] We conceive of a value sphere as a "distinct realm" of activity in which certain values, norms, and obligations are immanent. It is the result of process of rationalization, or social construction, aimed at creating logically coherent sets of values. Different value spheres, however, develop internal logics independent of one another, and they often imply conflicting norms and obligations (Brubaker 1984; Murphy 1994; Weber 1946).

We believe that park protection promoted as a mechanism to protect the "common good" is an attempt to extend a cultural model of environmentalism over people in localities: that have no direct control over the formulation of the environmental protection goals or regulations implied in that model. Furthermore, the attempted imposition of a park management regime implies a confrontation with existing common-property or open-access systems of natural resource management in many remote parts of the Third World. This confrontation occurs because, in the lehst developed places in the world, local resource management is guided by communal values, norms, and obligations regarding use of resources (Baland and Platteau 1996).[2] Park management regimes, in contrast, are based on introduced values, norms, and odligations that constrain local practices in a variety of ways. Although these regimes purportedly represent global or universal interests, they often conflict with more immediate local needs (Brechin et al. forthcoming; Lipschutz and Mayer 1993).

This situation might be interpreted as presenting residents of biosphere reserves with irreconcilable obligations such as feeding themselves and their families versus protecting the Forest and its biodiversity. Lipschutz and Mayer (1993) offer us a conceptual approach that moves beyond this interpretive irnpasse by conceiving of resource management regimes as socially constructed outcomes emerging from long-run struggles between stakeholdtrs. From this perspective, the objects of such struggles are property rights or a "system of rules, customs, norms, and laws that specify relationships between actors and their political, economic, and physical environments" (Lipschutz and Mayer 1993:248). This system of authority and rights constitutes the basis for regulations that control resource use. In other words, if any set of regulations is to be effective in controlling behavior, the constitutive systems of authority and rights must be accepted as legitimate by those subject to the regulations.

This perspective on park management regimes leads us away from simple notions of either the imposition of regulations sponsored by global environmental interests or the assertion of independent local control over natural resources. Instead we come to see resource management regimes as emerging from a dialectical process whereby efforts to establish parks inspired by global envi-

[2] Brandon et al. (1998) note that many places have an open-access system of resource management before the area is designated as a park. In such a system, the right of inclusion in the use of the resource is granted to anyone who wants to use it. This form of management is typically associated with the notion of the "tragedy of the commons." Not all local resource management systems are based on open access, however. Communal systems of resource management may impose a number of restrictions on land use, which establish a basis for sustained resource extraction to meet local needs (Baland and Platteau 1996).

ronmentalism are confronted by people defending the established local resource management system (Luke 1996; Tomlinson 1991). The result of this struggle is a management regime that combines features of the local and the global, but is unique in the particular configuration of rights and interests related to specific claims on natural resources (Lipschutz and Mayer 1993).[3]

This point leads us to an empirical question: How do residents in a park reconcile the demands of the park management regime with those of established communal practices for meeting immediate human needs? We maintain that they define a locally acceptable set of rights and interests in three ways: (1) "counter-appropriation," (2) delimitation, and (3) contestation. In this way parks become, as Brandon (1998:435) states, "magnet[s] around which local interests coalesce-even if the local interest is figuring out how to change or get rid of park regulations."

Like Scott's (1985) "weapons of the weak" and "everyday forms of peasant resistance" argument, Hawkins (1993:225) uses the term *counter-appropriation* to refer to a strategy whereby weaker actors appropriate the dominant norms or rhetoric to legitimize their own interests. In this way local residents express their needs in "the very terms that more powerful actors claim to accept and respect." Hawkins describes interactions between organizational actors, but the notion of counter-appropriation also can be used to refer to the relations between authorities and park residents. In the effort to impose a management regime, park authorities must present regulations in a manner that is understandable to local people, and must be accepted by park residents as part of the administrators' legitimate exercise of authority. To accomplish this goal, administrators may appropriate, local language to express rules regarding use of natural resources. Such appropriation sets in motion a struggle between park authorities and residents over the meaning of key terms. This dialectical process of appropriation and counter-appropriation places in relief the contention between regulatory authorities and local resource users. In this process, the meaning of natural resource terminology changes.

This process does not represent simply the displacement of park rules by local interests, but rather the creation of a unique configuration of rights and interests based on the reshaping of park rules, boundaries, and terminology so as to be more consistent with the needs of the local population. This type of interaction is common in various realms where globally inspired symbols and practices are transformed locally into unique objects. Recognition of such counter-appropriation helps us to avoid overstating the effects of

[3] Although we focus here on parks in developing countries, we believe that parks in places such as the United States also have developed historically through a dialectical, or syncretic, process (Schelhas 1999).

globalization on local cultures (Appaclurai 1990; Sahlins 1994; Swidler and Arditi 1994).

Delimitation involves setting boundaries that define individual interests more clearly in relation to those established by the park regulatory regime. By establishing boundaries and limiting access to certain natural resources, park authorities set in motion a process of social differentiation based on access to those resources. At stake here is the tenure system, or the system of rights and rules that applies to all resources in the park, including land, water, and trees (Brandon 1998; Geisler, Warne, and Barton 1997). The biosphere reserve model, for example, is a system of mixed land use whereby people live inside parks but are subject to certain restrictions on use of resources. Under these circumstances, people must agree not to use resources in the core zone, and they must agree to alter patterns of resource use in other areas of the park.

Park rules limiting access to resources create conditions of relative scarcity and uncertainty about future access. During this transition, individuals' access to natural resources is less certain than in common-property or open-access management systetns. which typically predate park regulatory regimes (Baland and Platteau 1996; Brandon 1998). Thus local residents have an incentive to capture short-term gains and to establish individual property claims (Brandon 1998). The important point here is not whether individual property claims are desirable, but the initiation of a process of local social differentiation in access to natural resources'. As shown in earlier studies of peasant economy, disruption of established forms of local social organization can lead LO social conflict with outside interests, which are viewed as creating conditions for an unjust distribution of resources (Walton 1984; Wolf 1969).

Finally, contestation is the process by which grievances and demands for social and environmental equity are articulated. The creation of a park leads to a "postmodern" compression of space described by Luke (1996), in which the periphery is reconfigured in its interaction with the core. This compression renders conventional analytical categories **such** as "core" and "periphery" less useful by bringing them into direct contact with one another. Park communities become an integral part of the global environmental community, and their position relative to the rest of society is made more visible. In this way, certain forms of inequality and injustice begin to become clear, and the potential for contestation is established. Indeed, the literature on peasant movements has highlighted the importance of links between rural and urban interests as a basis for articulating societal grievances and demands for social change (Jansen 1998; Moore 1966; Walton 1984; Wolfe 1969).

Next we show how residents of a national park in Honduras attempt, in these three ways, to reconcile the competing demands of

the park management regime with those of established communal practices for meeting human needs. This analysis also allows us to address the issue discussed above: how local and organizational forces interact in creating environmental concern in a poor country.

The Cerro Azul Meambar National Park in Honduras

Officially designated protected areas are a relatively recent phenomenon in Honduras, where the government established its first "national park" in 1980. The country elaborated a system of protected areas beginning in 1987 with National Law 87-87, which declared all lands at an altitude over 1,800 meters as protected areas. As a result of this and other legislation, more than 100 national parks and other protected areas now cover about 22 percent of the Honduran land base. Forty-one additional sites also have been proposed (National Congress of Honduras 1987).

The rapid expansion of this system of protected areas revealed a number of management problems, including conflicts between environmental protection and the economic needs of people living in and near the parks. Honduras is one of the poorest countries in the Western Hemisphere, second only to Haiti. Malnutrition is a serious problem, as is access to education. The literacy rate is very low; in addition, most rural areas have no access to electricity, poor transportation infrastructure, and very little exposure to mass media (Barton 1995; Brockett 1990).

The Honduran government created the Cerro Azul Meambar National Park (CAMNP) in 1987 with the expansion of the protected area system. The Park's core zone includes all of Cerro Azul Meambar Mountain from an altitude of 1,800 meters to its peak at 2,047 meters. The government never mounted a substantial park management program, but private environmental activities had been under way in the area since about 1984. A nongovernmental organization, Aldea Global (Global Village), had been engaged in various management pursuits in the Rio Yure watershed northeast of Lake Yojoa, the largest natural inland body of water in Honduras. Because of these efforts, Aldea Global had a significant interest in the management of CAMNP. The Park contains six major catchments, and drainage from the Park provides 70 percent of Lake Yojoa's water supply. Of greater national economic and political significance, the Park provides about 20 percent of the water that flows into the El Cajón reservoir. The hydroelectric plant at this reservoir generates about 85 percent of the Honduran electrical supply (Fourli 1995; Loker 1998; Mendoza 1995; Proyecto Aldea Global 1995).

In 1992, COHDEFOR (the Honduran Forest Service) contracted with Aldea Global to manage the Park for an initial five-year period. In 1997 COHDEFOR renewed this contract for an additional five

years. Aldea Global established three main objectives for management of the Park during the initial period (1992-1997): (1) to work with the local population in promoting knowledge about the Park, its natural resources, and economic alternatives that reduce human pressures on its resources; (2) to maintain or increase biodiversity within the Park; and (3) to protect the water supply originating in the Park (Fourli 1995).

As a first step in the development plan, Aldea Glodal proposed a set of boundaries which extended Park management beyond the limits established under National Law 87-87. COHDEFOR officially sanctioned these expanded boundaries in 1994, and CAMNP grew to cover 31,376 hectares. These boundaries correspond to the typical biosphere reserve model of park management (Brandon 1998; Batisse 1986).

CAMNP is one of the few Honduran parks that have a management plan (Day 1999). The plan, following guidelinks set forth in National Law 87-87, divides the park into three zones typical of biosphere models being implemented throughout the world: (1) a core zone of 890 hectares, or about 3 percent of the park, which allows no permanent settlement and only very limited human use; (2) a 9,129-hectare special use zone (about 29 percent of the total), which allows no human habitation, with limited and regulated human intervention; and (3) a buffer zone covering 21,357 hectares or about 68 percent of the Park area, which forms a band surrounding the core and special use zones. This buffer zone, unlike the core and special use zones, permits human habitation and allows for regulated human use of natural resources.

Altogether an estimated 19,600 people inhabit the Park, living in 42 communities in the buffer zone. Most of these communities have fewer than 1,000 inhabitants, and their economies are predominantly agricultural (Espinoza 1995) .[4] Although the local residents are mostly small-scale producers, local and outside landowners are engaged in relatively large-scale production of cattle, pineapple, and coffee near the Park's western, northern, and southern perimeters. Figure 1 shows the Park and the boundaries of its management zones.[5]

[4] The estimated Pat-k population is based on data for 17 communities involved in the Park program (Espinoza 1995). These represent 17 of the 42 communities in the Park; the CAMNP study estimated their population to be about 14,000. To obtain an estimate of the Park's total population, we simply inflated this figure by a factor of 1.4 (17/42).

[5] CAMNP's management activities during the 1992–1997 period were concentrated on the communities in the park's buffer zone. These efforts had four main foci: (1) To achieve community-based protection, local residents were employed as Park guards. Their responsibilities included education of local residents about benefits provided by the Park, location of boundaries, rules and regulations regarding use of the Park, and enforcement of regulations. (2) Education integrated with

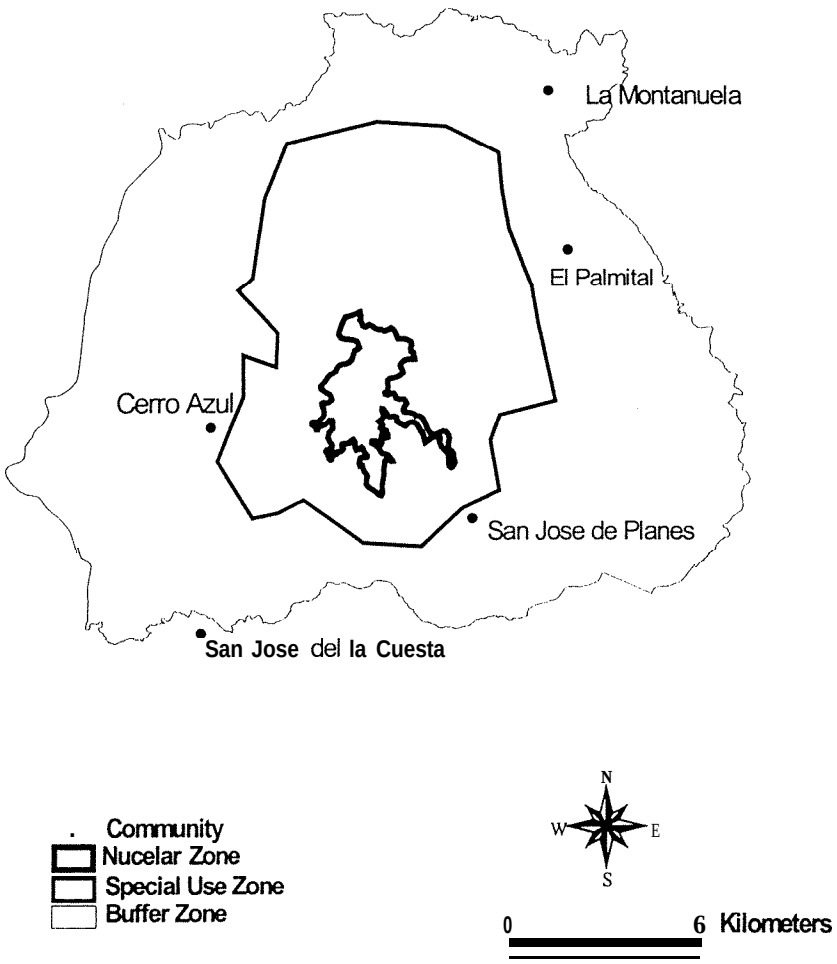

Figure 1. CAMNP Boundaries and Selected Study Sites

Data and Analysis

We selected five villages inside the CAMNP boundary to serve as our study sites. First of all, we selected a geographically dispersed set of villages (see Figure 1). Second, we chose a combination of

protection efforts had the broad goal of' raising consciousness about the Park among local residents as well as visitors to the Park. (3) Aldea Global expressed an interest in including community members in the administration of' the Park, and eventually delivering certain administrative duties to them. (4) Various research activities were undertaken in the Park. Aldea Global's intent was to develop local capacity to conduct some biological and social research (Barton 1995).

three villages directly involved in the Park program (i.e., with continuing outreach programs and resident Park Guards) and two that were not integrated into the program. All villages have been exposed to some outreach activity.

From examination of secondary data (available for 17 of the 42 villages in the program) and interviews with key informants, we concluded that our study sites were typical of villages in the Park. The population of the study villages varied from 490 to 949; the average for all villages in the Park program was 827. Our study sites, like most other villages in the Park, had been settled well after the turn of the century. The most recent, however, was settled in 1971. All of the villages are agricultural: inhabitants grow coffee for commercial sale and raise beans, maize, and fruits mostly for household consumption. Average farm size is about five hectares. All villagers earn a modest income, but average monthly incomes were higher in the village producing the most coffee: about 1,584 lempiras or $132, compared with about $54 in the village producing the least coffee. Average monthly household income for all villages in the Park program was about $92 (Espinoza 1995).

We interviewed 54 purposively selected individuals. Typically we made initial contacts in the villages through introductions provided by a Park guard or by local informants. About half of the interviews resulted from cold calls; through these calls, we initiated contacts with individuals we felt had been missed in the introductions provided. We oversampled public officials in an attempt to obtain additional background information. We undersampled females; they represented 40 percent of our respondents. Interviews with women yielded mixed results because many of our questions were not salient to women, who rarely are involved directly in forest management. For this reason, we believe that our oversampling of males is justified. In comparing the composition of our sample with other available data, we found that at some sites we oversampled Catholics; at others we undersampled them. Because our analysis revealed no clear differences based on religious affiliation, this sampling bias apparently has not compromised our findings.

We engaged our respondents in open-ended interviews lasting one to two hours. Our questioning was based on an interview guide consisting of various open-ended questions about attitudes and behaviors related to trees and forests. We also presented the interviewees with a set of five photographs showing varying levels of forest cover, and asked thern to describe what they saw in each picture, to indicate the photo they liked best and to explain why, and to point out which of the examples they would most like to have for their own land and to explain why. The scenes in the photos ranged from dense forest to pasture with scattered trees.

Our analysis began with a simple reading of field notes and tran-

scripts. We looked for patterns of responses to our questions. For the purposes of this paper, we focused on a subset of the patterns or themes we identified, and sought consistency of responses across the interviews. In the following analysis we present selected quotations, which represent these patterns or themes most clearly.

Analysis

Shifting Meanings: The Appropriation and Counter-Appropriation of Terminology

Both Park administrators and residents engage in adopting and redefining vocabulary, and this process moves them toward common ground. Perhaps the most striking finding of our interviews with Park residents was how completely they had adopted environmentalist rhetoric. In fact, our research team came to refer to such typical responses as the "party line." We elicited these pat responses when we asked respondents questions such as "When you think of forest and trees, what is the first thought that comes to your mind?" Most responses referred to the need for "pure air" or "oxygen" and the need to "protect the homes of wild animals." We were impressed that in all five villages, among respondents of all ages and backgrounds, we found such uniform answers to questions about what they thought about trees and forest. Table 1 presents some examples of typical replies on common environmental themes. These ubiquitous responses in the remote rural communities are consistent with studies reporting the worldwide prevalence of environmental concern. But is the expression of such concern of any consequence? To address this question, we look more closely at processes by which terminology was appropriated by Park authorities and then reappropriated by local residents.

The implementation of the Park regulatory regime introduced a new vocabulary of environmentalism to the rural communities, but it also attempted to redefine many common words. These new meanings were not simply imposed by the new Park authorities; they emerged from the confrontation between the pragmatic needs of Park residents and the more abstract environmental values informing Park policy. In part, this vocabulary reflects changes in Park inhabitants' thinking about clearing and cultivating the land. Thus an important aspect of the struggle over terminology begins with the attempt to regulate use of natural resources in terms of local categories.

To demonstrate this point, it is useful to begin by considering some of the conventional local vocabulary. As one would expect from people whose lives revolve around agriculture, various terms are used to describe the process of clearing the land of trees. When referring to clearing forest more than 10 years ago (before establishment of the Park), farmers used terms such as *botar, tumbar, talar,* and *descombrar* to denote a complete clearing of trees from the land. An example is the expression *mis padres botaron los árboles* ("my parents cleared the trees"). Such destructive practices typically were attributed to the previous generation, or to one's own generation with the disclaimer *descombramos el bosque antes por nuestra ignorancia* ("we deforested earlier out of ignorance"). For example, a farmer who had presented us with his version of the environmental viewpoint contrasted past with present norms of forest use:

> Like I said, when we came here we did cut dbwn some forests. Because we came to occupy land. We did/ not come to protect forests at that time.(5)[6]

Similarly, when another farmer was asked whether he had learned conservation from his father, he replied:

> My father? No, he cut down trees because when he came here it was all an incredible wilderness (montaña), but since he came at an age when he was supposed to work, well, he chopped down the forest. (2)

The vocabulary softens as one moves toward a discussion of more contemporary practices. Less aggressive terms allow people

[6] The number in parentheses refers to the interview.

Table 1. Selected Responses by Environmentaf Themes

Environmental Theme	Typical Response
1. Long-term benefits of environmental protection	"So here we did not know . we only only know how to clear forest, and burn and plant corn, but we were destroying the environment... now you have to know how to do things . . ." (19)
2. Importance of reforestation	"...if you plant trees you are helping so that nature will always remain alive." (13)
3. Habitat conservation	"If the Park were eliminated . the animals there would go away, right? Or they would die, then that would not be good." (25)
4. Air quality and climate	"Where there are not any trees you breath all kinds of air, contaminated and all that. . ." (18)
5. Forest and water conservation	'They have taught us that when you take the shade away for a water source, and all that, the water goes away and we will have no water." (20)
6. Aesthetic qualities	sometimes I look at that forest and I see the beauty of that mountain, how beautiful it is to look at how God cl-eat@ nature." (18)

Source: 54 interviews conducted in July 1998. Numbers identifying respondents are in parentheses.

conscious of the Park regulations to avoid speaking directly about clearing forest or cutting down trees. Instead they give the impression of regulating growth for appropriate use. In one interview, for example, a Park guard mentioned that he had not cleared land of trees but had done *un pequeño raleo* ("a small amount of thinning") (4). Other euphemisms consistent with the needs of coffee cultivation are terms associated with shade, such as *controlar* or *regular la sombra* ("to control or regulate shade"). These euphemisms for cutting down trees are used by farmers to suggest a conservation orientation: that is, cutting down trees only for the purpose of protecting coffee, in contrast to a more complete clearing of land.

Some words provide a more direct contrast between competing environmentalist and practical orientations to natural resource management. The conventional Honduran term for primary forest is *montaña*, related to the Spanish word for *mountain*. For example, the expression *¡Aquí era una montaña bárbara!* ("This was an incredible wilderness!") is commonly used by residents who settled in the Park within the past 40 years and who participated in the deforestation of the area. One woman who came to the village of Cerro Azul as a little girl used *montaña* to describe the early settlement of the area:

> And when the wilderness was cut, it was cut without restraint. And then everything was cleared that was wild. All that wilderness and places that were chopped down just to chop down trees, because they were not used because it was too much wood. (9)

In contrast, *bosque* is a more contemporary word used to designate' forest. Farmers used *bosque* when referring to environmentally oriented activities such as reforestation or to indicate familiarity with this new language. When one farmer spoke of his *bosquecito de café* ("little coffee forest"), he was suggesting that his coffee plantation was a forest rather than merely a crop (14). The point here is that farmers tended to use *montaña* to connote a forested area to be claimed, but *bosque* for forest that was to be conserved.

Under the Park management rules, forests are protected with limitations on tree harvesting. Trees can be harvested only selectively for an approved use by a local resident and with a permit approved by Park and municipal officials. In contrast to forests, guamiles are parcels of land left fallow as part of the agricultural rotation. Regrowth of brush and small trees is considerable after an extended fallow period; this land is considered to be available for cultivation. An example of a reference to *guamiles* is *Tengo mis guamiles en el cerro* ("I have my fallow lands on the mountain"). *Guamiles* with regrowth of trees and brush are called by terms such as *guamilito bajo* ("small brush"), *rastrojor* ("loose branches and twigs"), *matorales* ("bushes"), and *monte bajito* ("small forest"). Farmers often used these terms when asked whether they had cut trees. Reasserting the generational differences mentioned above, they often stated that their fathers had cleared forest a long time ago, but they themselves had cleared only brush, as in *Allí solo hay guamilito bajo* ("There is only brush there").

Farmers traditionally have used a rotation including forest fallow to restore fertility to their lands, and *guamiles* now fall into a regulatory gray area. Because the *guamiles* were created by clearing virgin forest, farmers are now allowed to remove the *re-growth* and cultivate the land. It is unclear what would happen if the *guamil* were to be left fallow for 10 years.[7] Would the growth be considered trees? The critical question is "What is secondary forest and what is *guamil*?" Farmers asked us this question, and increasingly we asked it as well. No one had an answer; this fact indicates that the terminological struggle of appropriation and counter-appropriation is likely to continue for some time.[8]

Delimiting the Possible

The dialectic of defining terms at CAMNP was a process of defining limits of natural resource use, and these limits truly affected people's livelihoods. This process of establishing the range of acceptable resource uses provoked considerable uncertainty and anxiety about what resources would be available for use, and who would have access. No one was sure what would happen when the Park was formed, and people circulated rumors that the inhabitants would have to leave the Park. One woman expressed relief about the Park as it is today:

> Before we were scared when they said "national park," because they said they would remove us from here, from the town, because this would be the site of the national park. (20)

Even so, there was considerable confusion about who owned the Park and what would happen to its residents. It appeared to several Park residents that their land had been sold. When we asked farmers to whom the park belonged, their answers were varied. Some said that they simply did not know; others said the government

[7] Jansen (1998) found that 38 percent of the *guamiles* in his study had been fallow three years or less, 69 percent for five years or less, and 89 percent for 10 years or less. He classifies areas with more than 10 years of regrowth as secondary forest.

[8] We asked the former director of CAMNP to tell us the difference between *guamil* and secondary forest. He could not do so, and explained that these categories are not defined clearly in either laws or management practices (A. Oliva, personal interview, June 16, 1999).

owned it. One person even claimed that it had been sold to the Hungarians. Several suggested that the Park belonged to the North Americans because most of the visitors came from the United States. One woman told us that her friends had cautioned her:

> It is clear, we have been sold to the Americans . . . that is why they are interested in the forests. . . . Sometimes you think, is it true? And I have my doubts, you understand. (21)

Creation of the Park introduced a new orientation to the use of natural resources. One local official noted that restrictions on the clearing of forest would make cultivable land more scarce: Park residents would be forced to rely on a fixed quantity of land to feed an expanding population. (5) Interviewees seldom directly acknowledged the limitations imposed by the Park, but many expressed their concerns about access to resources. The woman quoted above also recounted how her family had established its parcels in the area before it became a park:

> At the time that [my husband] chopped down [the trees] there weren't those types of problems, of laws, right? . . . Not to say "problems," because by saying "problems" I would be against them.(21)

This respondent explained that the existence of the Park was not a direct threat to her family because they had cleared land before the regulations were established. Although farmers generally expressed support for the environmental orientation, they also expressed enthusiasm for the changes brought by earlier deforestation, such as cleared land for cultivation, larger villages, and roads. Such extensive changes would not be possible under current regulations.

With the existence of the Park, farmers engaging in restricted activities such as cutting trees without a permit or clearing land with fire could face significant fines and even imprisonment. Under such circumstances, farmers found themselves in an ongoing struggle to expand the limits of acceptable resource use. As mentioned above, for example, Park regulations allowed farmers to clear *guamiles,* but not secondary- or primary-growth forests.

Accordingly, farmers try to expand the range of vegetative cover defined as *guamil.* This point is illustrated by respondents' descriptions of the photographs we showed each of them; as stated earlier, these depicted typical regional scenery ranging from dense forest to pasture. Farmers made remarks such as the following after looking at photos of thick tree growth that we chose to represent dense secondary forest: *"¿Son guamiles, no?"* ("These are *guamiles,* aren't they?") *(25)* ; *"Aqui no hay montaña. Estos son guamiles bajitos. Ya no es montaña"* ("Here you do not have primary forest. These are small

guamiles. This is not primary forest anymore") (27). Yet when these farmers examined photographs of denuded pastureland with some scattered tall hardwood trees, they claimed that it was beautiful because there were trees *(montaña).* These descriptions of the two photographs clearly demonstrate that farmers interpret very broadly terms such as *guamil,* at one extreme, and *bosque* and *montaña,* at the other. When is a forest a forest? It is not easy to obtain a clear answer from farmers trying to protect their access to resources that are becoming increasingly limited in the face of Park restrictions.

Contesting the Social Order: The Emerging Consciousness of Injustice

As noted above, the Park's management objectives are a combination of global and national influences: protection of biodiversity, on the one hand, and security of the water supply, on the other. Although farmers had reported decreases in wild game and forest, the situation had not led to local environmental protection initiatives. Instead Park authorities imported notions of environmental protection into the local communities. They did not consult the villagers during the creation of the Park; when local residents found that they now lived in a Park and were subject to regulations, the situation appeared, according to one Park resident, "as something that came from above and was going to squash [us]" (9). One local official described the parental relationship between the Park administration and the residents:

> The National Park has come to teach us to stop [cutting trees]; it is not prohibited, it's just bad for us. The mother [knows] but her son does not; the child does not know. So the mother says, "Shhhh, do not do that because; it is bad." She says it causes damage. She knows how it darriages. The child does not know. (19)

Consequently the authorities were faced with the task of educating residents about the Park's benefits. As mentioned earlier, one objective of the management plan was to promote knowledge of the Park. An important element of the educational campaign was to inform residents of the Park's benefits. In contrast to more immediate needs, the educational program taught Park residents that a protected forest, in the long run, would offer tangible benefits in the form of water, pure air, and wood supply. The program also emphasized the forest's non-utilitarian, aesthetic qualities and the necessity of protecting animal habitats. One Park guard expressed this concept of nature as valuable in and of itself, and observed that the associated benefits included visits from outsiders coming to study the Park:

> In that way I think that the forest is serving its purpose, and it is being used only by looking at it and studying it.(4)

Another woman explained in similar terms what she heard about the Park:

> I have heard in programs that it is a park with lots of natural riches and of a lot of natural beauty and that for that reason we should protect it . . . these are works of nature, and in itself it is a work of God, right? (3)

Most respondents were aware of the environmental benefits offered by the Park, such as habitat and water supply protection and help in producing pure air and water. When pressed to comment on how the Park benefitted them, however, residents often strained to remember what those benefits were, like students taking an examination. One such woman said to us in a sad voice:

> Look, I repeat, I do not remember things well, they have told me. . . . I know that [the Park] benefits the town, but [I do not remember] this and that, or what the other reasons might be . . . or what benefits there might be . . . (21)

Although most residents could not readily specify how the Park benefitted them directly, they were somewhat more aware of ways in which it left them wanting. Several of our respondents expressed concern that the government had not created the Park with everything they perceived that a "park" requires, including electricity, designated paths, and telephones. The issue of electricity is especially important because it was lacking in most villages in the Park (including all of those we visited). Yet the Park is an important water source for the nation's largest hydroelectric plant. This fact highlights the marginal position of these communities in relation to more privileged urban interests, and some Park residents have become aware of their place in the larger social order. Some residents recognized their lack of electricity as an injustice. One respondent articulated this point very clearly, observing that the Park exists for the nation, especially to generate electricity for the country. Although the electricity is for the entire nation, he said, only some places in the Park receive electricity. That is unjust because the community protects the forest and the water resources used to generate the electricity (17).

Creation of the Park also raised awareness of other local needs. Park authorities and villagers alike suggested that if the forest was to be protected and if the local farmers were to survive, the communities needed alternative sources of income. Some respondents said they had been told that the inclusion of alternative income-generating activities was one of the conditions for creating the Park, but this issue had not been addressed.

Park residents frequently suggested that the government should create employment opportunities. Furthermore, they saw a clear connection between work and conservation. One local official thought that attention to environmental issues without consideration of employment needs would lead to social tensions:

> They declared it as a Park zone to purify the air that they themselves breathe, but without realizing the damage that they are doing to the communities. If they do not create sources of work more clearly, there will be a more serious social problem in the country. That much is clear. (5)

Conclusion

In our analysis of reactions to the superimposition of a park management regime on a local system of resource use, we reached conclusions about global environmental concern, park management, and social inequality. One striking finding was the extent to which residents of remote Honduran mountain villages expressed environmental concerns similar to those expressed by people worldwide. This observation is consistent with previous studies documenting the global prevalence of such concern.

We have demonstrated how three processes lead to the development of unique local regulatory regimes. These processes are set in motion when users of local resources confront authorities' attempts to impose regulations inspired by the global environmental discourse: administrators and local residents negotiate acceptable terminology and limits on access to natural resources. Although we regard any local regulatory regime as a compromise between local residents and administrators, the nature of any particular compromise will be determined by the relative power and political effectiveness of the parties involved. Once the terms of reference are established, these parties can account more clearly for costs and benefits associated with the regulatory regime; in this way they establish a basis on which local residents can press demands for more equitable treatment.

CAMNP residents express generic environmental1 concerns, but their environmental practices are unique, reflecting the interaction between globally inspired Park regulations and their own material and cultural interests. Consequently the CAMNP regulatory regime reflects contentions between Park authorities and residents over both terminology and boundaries. The meanings of the terms and the boundaries related to the regulation of natural resources changed over time, reflecting the struggle over effective limits on use of natural resources.

Attempts to regulate natural resource use establish conditions for potential social conflict not unlike those created by the spread of

commercial agriculture in past decades. Although we did not observe any insurgent activities, the imposition of Park boundaries and restrictions on land use created a sense of injustice among some of those living inside the Park. This sentiment might provide some -rationale for subversion of the Park's environmental protection goals, but we did not find any evidence that this outcome was likely. Insteacl, in the villagers' efforts to shape official terminology and boundaries, we saw sincere attempts to reconcile the Park's conservation goals Park with their own pressing economic needs. One might expect the actual land use regime emerging from this process to be better adapted to local conditions.

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Locating the Community Field: A Study of Interorganizational Network Structure and Capacity for Community Action*

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ABSTRACT I examine the concept of the community field to identify the structures, elements, and processes that generate improved capacity for community action. I conduct analysis of interlocking leadership among local organizations and recent community action in three Midwestern communities to determine the structure and attributes of the community field. I use findings from community power research to anticipate and guide interpretation of the different network structures found in each community. A community field is identified in the communities with pyramidal and coalitional structures. Inclusive, coordinating networks, institutions with stockpiled resources, and the existence of local planning processes are some of the community field-like structures and processes I identify. The findings have implications for future rural community research and practice, including support for increased use of network analysis as a diagnostic tool for community development.

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A road map identifies the physical features of a conpmunity, such as streets, government offices, and parks, but it does not reveal the pattern of individual and organizational interactions. These interactions, although not as obvious as geographic features, can have significant implications for a community's well-being. The research reported here focuses on selected features of small-town social structure and its relationship to community capacity for local action, a longtime interest of rural community researchers (Kaufman 1959; Sims 1920; Wilkinson 1991).

The recent popularity of the social capital concept has stimulated additional interest in the resource potential of social structure (Flora 1998; Putnam 1993; Wall, Ferrazzi, and Schryer 1998; Woolcock 1998). Drawing on the interactional perspective (Kaufman 1959; Wilkinson 1970a, 1972, 1991), community network analysis, and community power research (Aiken 1970; Gafaskiewicz 1979;

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